

CM I CLAIM:

M 1. Amylin or amylin-NH₂ or CGRP or a functional peptide fragment of amylin or amylin-NH₂ or CGRP, or a conservative variant of the amylin or amylin-NH₂ or CGRP or fragment, for use in the treatment of diabetes mellitus or hypoglycaemia.

P 2. A composition comprising a) insulin and b) one or more of amylin or amylin-NH₂ or CGRP, or a functional peptide fragment of amylin or amylin-NH₂ or CGRP or a conservative variant of the amylin or amylin-NH₂ or CGRP or fragment, for use in the treatment of diabetes mellitus or hypoglycaemia.

3. A composition as claimed in claim 2, wherein the molar ratio of insulin to amylin or amylin-NH₂ or CGRP (or fragment or variant) is from 100:1 to 0.1:1.

4. A product according to any one of claims 1 to 3, in the form of a solution suitable for parenteral administration.

K 5. A method of preparing a product for the treatment of diabetes mellitus or hypoglycaemia, which method comprises bringing an ingredient selected from amylin, amylin-NH₂, CGRP, functional peptide fragments thereof and conservative variants of the amylin or amylin-NH₂ or CGRP or fragment, into the form of a solution suitable for parenteral administration.

6. A method of preparing a composition for the treatment of diabetes mellitus or hypoglycaemia, which method comprises bringing the active ingredients a) insulin and b) one or more of amylin or amylin-NH₂ or CGRP or a functional peptide fragment thereof or a conservative variant of the amylin or

amylin-NH₂ or CGRP or fragment, into the form of a solution suitable for parenteral administration.

~~7. A method of treating a mammalian patient for diabetes mellitus or hypoglycaemia, which method comprises administering to the patient a composition comprising one or more ingredients selected from amylin and amylin-NH₂ and CGRP, a functional peptide fragment of amylin or amylin-NH₂, CGRP, a functional peptide fragment of amylin or amylin-NH₂ or CGRP, and a conservative variant of the amylin or amylin-NH₂ or CGRP or fragment.~~

8. A method as claimed in claim 7, wherein insulin is also administered to the patient.

9. A method as claimed in claim 8, wherein the insulin and the amylin or amylin-NH₂ or CGRP (or fragment or variant) are administered to the patient in a molar ratio of from 100:1 to 0.1:1.

10. A method as claimed in claim 8 or claim 9 wherein a composition comprising the insulin and the amylin or amylin-NH₂ or CGRP (or fragment or variant) is administered parenterally.

11. A soluble preparation of one or more of amylin, amylin-amide, and active subfragment(s) of amylin and amylin-amide, useful in the treatment of diabetes mellitus or hypoglycemia.

12. The preparation of claim 11 that has been rendered soluble by treatment with formic acid.

13. The preparation of claim 12 wherein said formic acid is 70% formic acid.

~~14. The preparation of claim 11 that has been rendered soluble by treatment with guanidinium hydrochloride.~~

15. The preparation of claim 14 wherein said guanidinium hydrochloride is 6.0 M guanidinium hydrochloride in a buffer containing monohydrogen phosphate or sodium dihydrogen phosphate.

16. The preparation of claim 15 wherein said buffered guanidinium hydrochloride has a final guanidinium hydrochloride concentration of 6.0 M.

~~17. The preparation of claim 11 that has been rendered by soluble by ultrasound.~~

18. The preparation of claim 11 that has been rendered soluble by dissolution in salts of sodium or ammonium, especially ammonium bicarbonate or carbonate or sodium bicarbonate or carbonate.

19. A preparation of one or more of amylin, amylin-amide, and active subfragment(s) of amylin and amylin-amide, that is lyophilized.

20. The preparation of claim 11 that has been solubilized by treatment with trifluoroacetic acid or acetonitrile or a mixture thereof.

21. The preparation of claim 20 wherein said trifluoroacetic acid is about 0.1-1.0% trifluoroacetic acid.

22. A delayed release preparation of one or more of amylin, and amylin-amide, and active subfragment(s) of amylin and amylin-amide.

23. The preparation of claim 22 in combination with insulin.

24. The preparation of any of claims 22 and 23 *conventional*
formulated with protamine.

25. The preparation of any of claims 22 and 23
formulated with a zinc salt.

26. The preparation of claim 25 wherein said zinc salt
is zinc chloride.

27. The preparation of any of claims 22 and 23
formulated with protamine and a zinc salt.

28. The preparation of claim 27 wherein said zinc salt
is zinc chloride.

29. A preparation of one or more of amylin, amylin-
amide, and active subfragment(s) of amylin and amylin-amide, in
which said amylin, amylin-amide, and subfragments are
crystallized.

30. The preparation of claim 29 further comprising a
zinc salt and a buffer suitable for parenteral administration.

31. The preparation of claim 30 said zinc salt is zinc
chloride.

32. A suspension of one or more of amylin, amylin-
amide, and active subfragment(s) of amylin and amylin-amide,
formulated with a zinc salt in a buffer suitable for parenteral
administration.

33. The suspension of claim 32 wherein said zinc salt
is zinc chloride.

34. A crystallized preparation of amylin and divalent
zinc cation, in which the crystals have been resuspended in a
solution of sodium acetate/sodium chloride.

35. The preparation of claim 34 wherein said solution has a pH of about 7.2 to about 7.5.

36. A method for monitoring the therapy of diabetes mellitus or hypoglycemia comprising determination of the level of amylin in the blood, serum or plasma of a patient undergoing said therapy.

37. The method of claims 36 wherein said therapy is an islet cell transplant.

38. The method of claim 36 wherein said therapy is a pancreatic transplant.

39. The method of claim 36 wherein said therapy is an implant of pancreatic tissue.

40. The method of claim 36 wherein said therapy is or includes amylin therapy.

41. The preparation of any of claims 11, 19, 22, 23, 29, and 32 in which the disulfide bond is intact.

42. The preparation of any of claims 11, 19, 22, 23, 29, and 32 in which the disulfide bond is not intact.

~~43. A method for preparing amylin, amylin-amide, or subfragments thereof, comprising dissolution of said amylin, amylin-amide or subfragments thereof in an appropriate denaturing agent and oxidation by an appropriate oxidizing agent.~~

44. The method of claim 43 wherein said oxidizing agent is potassium ferricyanide.

45. The method of claim 43 wherein said denaturing agent is selected from the group consisting of guanidinium chloride and urea.